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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,070	03/16/2004	Albert S. Wang	MSI-801USC4	5175
22801	7590	11/29/2005	EXAMINER DIEP, NHON THANH	
LEE & HAYES PLLC 421 W RIVERSIDE AVENUE SUITE 500 SPOKANE, WA 99201			ART UNIT 2613	PAPER NUMBER

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/803,070	Applicant(s) WANG, ALBERT S.	
	Examiner Nhon T. Diep	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 17-20, 33-36 and 49-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 17-20, 33-36 and 49-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-4, 17-20, 33-36 and 49-51 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,118,817. Although the conflicting claims are not identical, they are not patentably distinct from each other because the invention being claimed is a broader recitation of the same invention being claimed in the above US Patent. Therefore, the

application claims are encompassed by the above patent. A terminal disclaimer is required so as to insure that, were the application to mature into a patent, both patents would be commonly owned in their lifetimes.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Video Compression Coding (US 5,978,544) as cited by the applicant, in view of Widergren et al (US 4,394,744).

Shimada et al discloses a video compression coding apparatus and video compression recording/playback apparatus comprising the same method for encoding a motion video signal, the method comprising: determining a desired size for a first frame of the motion video signal (fig. 5, step S12); encoding the first frame of the motion video signal to form an encoded frame (fig. 5, step S11); determining an encoded size of the encoded frame; comparing the encoded size to the desired size (fig. 5, step S13); adjusting an encoding parameter such that encoding the first frame according to the encoding parameter as adjusted would form a different encoded frame having a size closer to the desired size than the encoded size is to the desired size (fig. 5, steps S14-S15-S16); and encoding a second frame of the motion video signal according to the encoding parameter as adjusted (fig. 5, step S17) as specified in claim1; wherein the

second frame is subsequent to the first frame in the motion video signal (Next Frame, step S17) as specified in claim 2; wherein the encoding parameter is a numerical representation of a compromise between consumed bandwidth and image quality of the motion video signal as encoded (steps S15-S16 read in light of fig. 11 which shows the quality vs bitrate) as specified in claim 3; wherein the step of adjusting comprises: determining a difference between the encoded size and the desired size; and adjusting the encoding parameter by an amount which is proportional to the difference (steps S15-S16) as specified in claim 4. It is noted that Shimada et al does not particularly disclose that the adjusting is based at least in part on a damping factor which reduces overcorrection of the encoding parameter. Widergren et al teaches that "the rate buffer with feedback normalization factor is designed to permit the desired variable coding rate for incoming data while attempting at all times to converge to the overall rate and that damping factor is introduced to keep the data inside the rate buffer rapidly converging towards the normal half full position and the damping factor is strictly dependent upon buffer status" (col. 8, ln. 45 – col. 9, ln. 55). Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of Shimada et al by using damping factor in adjusting encoding parameter to reduce overcorrection of the encoding parameter. Doing so would help to speedily obtain a convergence towards desirable rate.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 17-20, 33-36 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al, in view of Widergren et al and further in view of Kumazawa et al (US 5,815,217).

7. As applied to claims 1-4 above, it is noted that the combination of Shimada et al and Widergren et al does not particularly disclose the using of computer and software to process the method as claimed in claims 17-20, 33-36 and 49. Kumazawa et al teaches the detection and processing of motion video signal can be realized with software processing using a CPU 17 of general use as shown in the block diagram shown in FIG. 4. In other words, a moving image encoder 18 composed of the frame memory 1, the subtracter 2, quantizer 4, entropy encoder 5, adder 7, etc. is connected to a bus 19 of the CPU 17, and the prediction error between frames which is necessary for the scene-change detection can be read from the CPU 17. The CPU 17 realizes an operator, a counter and a comparator, that is, a scene-change detection mechanism, following a program stored in a memory 20. Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of the combination of Shimada et al and Widergren et al by using computer and software to process the coding of video signals as taught by Kumazawa et al. Doing so would help to expedite the process.

8. Claims 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Video Compression Coding (US 5,978,544) as cited by the applicant, in view of Legall et al (US 5,929,016).

Shimada et al discloses a video compression coding apparatus and video compression recording/playback apparatus comprising the same method for encoding a motion video signal, the method comprising: determining a desired size for a first frame of the motion video signal (fig. 5, step S12); encoding the first frame of the motion video signal to form an encoded frame (fig. 5, step S11); determining an encoded size of the encoded frame; comparing the encoded size to the desired size (fig. 5, step S13); adjusting an encoding parameter such that encoding the first frame according to the encoding parameter as adjusted would form a different encoded frame having a size closer to the desired size than the encoded size is to the desired size (fig. 5, steps S14-S15-S16); and encoding a second frame of the motion video signal according to the encoding parameter as adjusted (fig. 5, step S17) as specified in claim 50. It is noted that Shimada et al does not particularly disclose the encoding analyzes both a first encoding adjuster and a second different encoding adjuster. Legall et al teaches that "from step (1) a number of bits used to encode each frame in the input sequence in the first encoding pass is determined. Then, a bit budget for each frame in the sequence is determined from the number of bits used to encode each frame in the first pass such that (a) an overall target for the number of bits used to code the entire frame sequence is not exceeded, and (b) $R_{sub,max}$, a maximum channel bit rate, is not violated."(col. 6, ln. 49-60). Therefore, it would have been obvious to one of ordinary skilled in the art at

the time the invention was made to modify the system of Shimada et al by further analyzing the overall (a second encoding adjuster) bit target in addition to a first encoding adjuster as taught by Legall et al. Doing so would help to prevent a VBV buffer from being overflow.

Regarding claim 51: Claim 51 recites the first encoding adjuster comprises a primary open loop rate control adjuster and the second encoding adjuster comprises a secondary closed loop rate adjuster, and wherein a higher weight is given to the secondary closed loop rate control adjuster. Since as indicated in the above paragraph, the combination of Shimada et al and Legall et al, now has two encoding adjusters, one for a frame level and the other for the entire frame sequence (a secondary closed loop rate adjuster) and the final bit rate as a results of the coding of entire frame sequence would be the bit rate to be transmitted to the decoding side and subjected to transmission bit rate constraints and therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to give more weight to the secondary closed loop rate control adjuster since the secondary rate controller actually controls the final bit rate before encoding bit stream goes to the transmission line. Doing so would help to prevent the problem of overflow/underflow of transmission lines.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Hasser (US 6,833,846) discloses a control methods for the reduction of limit cycle oscillations for haptic devices with displacement quantization.

b. Bultan et al (US 6,456,648) discloses a code tracking loop with automatic power normalization.

c. Martin et al (US 5,936,940) disclose a adaptive rate-based congestion control, in packet networks.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T. Diep whose telephone number is 571-272-7328. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ND
11/17/2005

NHON DIEP
PRIMARY EXAMINER

